

What is claimed is

1. A genomic RNA of the Korean JEV isolate composed of  
a 5'nontranslated region (NTR), a single  
5 polypeptide coding region, and a 3'NTR.
2. A genomic RNA of the Korean JEV isolate as set forth  
in claim 1, wherein the full-length RNA genome is  
10,968-nucleotide in length and consists of a 95-  
10 nucleotide 5'NTR followed by a 10,299-nucleotide  
single open reading frame and terminated by a 574-  
nucleotide 3'NTR.
3. A genomic RNA of the Korean JEV isolate as set forth  
15 in claim 1, wherein the JEV genomic RNA is  
represented by SEQ. ID. No 15.
4. A JEV genomic RNA as set forth in claim 3, wherein  
the JEV genomic RNA has over 98% homology with the  
20 JEV genomic RNA represented by SEQ. ID. No 15.
5. A JEV genomic RNA as set forth in claim 1, wherein  
the 5' terminal sequence is <sup>1</sup>AGAAGT-.
- 25 6. A JEV genomic RNA as set forth in claim 1, wherein

the 3' terminal sequence is -GATCT<sup>10968</sup>.

7. An infectious JEV cDNA for the full-length JEV genomic RNA of claim 1.

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8. The JEV cDNA as set forth in claim 7, wherein the cDNA contains a promoter at the beginning of 5' end of a JEV genomic RNA and a restriction endonuclease recognition sequence at the end of 3' end as a runoff site.

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9. The JEV cDNA as set forth in claim 8, wherein the promoter is SP6 or T7.

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10. The JEV cDNA as set forth in claim 8, wherein the restriction endonuclease recognition sequence is not exist in the JEV genomic RNA.

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11. The JEV cDNA as set forth in claim 8, wherein the restriction endonuclease recognition sequence is *Xho* I or *Xba* I.

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12. The JEV cDNA as set forth in claim 8, wherein the JEV cDNA is selected from a group consisting of sequences represented by SEQ. ID. No 43, No 44, and

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No 45, which all have SP6 promoter and sequences represented by SEQ. ID. No 46, No 47, and No 48, which all have T7 promoter.

5      13. A vector including the JEV cDNA for the full-length JEV genomic RNA of claim 7.

10      14. The vector as set forth in claim 13, wherein the vector used bacterial artificial chromosome (BAC) as a parental vector.

15      15. The vector as set forth in claim 13, wherein the vector is selected from a group consisting of pBAC<sup>SP6</sup>/JVFL/XhoI containing the JEV cDNA represented by SEQ. ID. No 43, pBAC<sup>SP6</sup>/JVFLx/XhoI containing the JEV cDNA represented by SEQ. ID. No 44, pBAC<sup>SP6</sup>/JVFLx/XbaI containing the JEV cDNA represented by SEQ. ID. No 45, pBAC<sup>T7</sup>/JVFL/XhoI containing the JEV cDNA represented by SEQ. ID. No 20 46, pBAC<sup>T7</sup>/JVFLx/XhoI containing the JEV cDNA represented by SEQ. ID. No 47, and pBAC<sup>T7</sup>/JVFLx/XbaI containing the JEV cDNA represented by SEQ. ID. No 48.

25      16. The vector as set forth in claim 15, wherein the

vector is pBAC<sup>T7</sup>/JVFLx/XbaI having T7 promoter  
(Accession No : KCTC 10346BP).

17. The vector as set forth in claim 15, wherein the  
5 vector is pBAC<sup>SP6</sup>/JVFLx/XbaI having SP6 promoter  
(Accession No : KCTC 10347BP).

18. An infectious JEV RNA transcript synthesized from  
the vector of claim 13.

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19. An infectious JEV RNA transcript as set forth in  
claim 18, wherein the virus-unrelated nucleotides  
at its 3' end are removed.

15 20. An infectious JEV RNA transcript as set forth in  
claim 19, wherein the virus-unrelated nucleotides  
are removed by treating mung bean nuclease (MBN).

21. A cell transfected with the JEV RNA transcript of  
20 claim 18.

22. A synthetic JEV obtained by cultivation of the cell  
of claim 21.

25 23. A synthetic JEV as set forth in claim 22, wherein

the mutation is introduced in the JEV cDNA.

24. A method for the expression of heterologous genes comprising the following steps:

- 5        1) Preparing a recombinant JEV cDNA expression vector by inserting heterologous genes into the JEV cDNA vector of claim 13;
- 2) Producing a JEV RNA transcript from the above recombinant JEV cDNA expression vector;
- 10      3) Preparing a cell transfected with the above JEV RNA transcript; and
- 4) Expressing foreign proteins by culturing the above cell.

15      25. The method as set forth in claim 24, wherein the foreign genes are inserted at the beginning of the JEV 3'NTR of the JEV cDNA.

26. A diagnostic reagent containing elements originated  
20        from the JEV genomic RNA or JEV cDNA.

27. An anti-JEV vaccine containing elements originated from the JEV genomic RNA or JEV cDNA.

25      28. A therapeutic agent comprising the JEV cDNA of

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claim 7 as effective ingredients.